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JACOB HENRY REDSECKER.

Jacob Henry Redsecker died in Lebanon, Pennsylvania, on April 20, 1909, aged 70 years, 2 months, 5 days. After a few years of declining health under the loving ministrations of kin and friends, his well-rounded life came to a close. He was the son of Jacob and Harriet Redsecker and was born at Elizabethtown, Lancaster County, February 15, 1839. The common schools of his native town provided all the preliminary educational equipment possible for him. His native energy, zeal, and ambition made possible the self-made man of whom we write. At the age of 18 years—in 1857—he entered the drug store of Dr. George Ross, of Lebanon, who was his cousin. With the assistance that was afforded him in this family, as he became a member of the household, books and the opportunity of using them were his; it is noted of him that after the day's work was over, for most persons, he was found in his room pursuing studies with energy, perseverance, and we may well deduce systematic application. It was not his privilege to receive the benefit of College of Pharmacy training, but under the tutorship of Dr. George Ross, his preceptor, he became well equipped, and having attained the qualifications satisfactory, he was admitted as a partner in the business in 1873 under the firm name of Dr. George Ross & Co., and, after the death of the senior partner in 1880, he became the manager of the well-established business.

By the death of Mr. Redsecker the city of Lebanon has lost one of its best citizens, and while he was much interested in its growth and possibilities, and a man of strong convictions, political and otherwise, he repeatedly declined political favors that might

have been his for the acceptance. He was a useful citizen, kindly disposed, charitable, with free hand and tender heart, and the deserving found him ever ready to relieve.

He was one of the founders of the Lebanon County Historical Society and was a frequent contributor of papers, valuable in perpetuating the history of this part of Pennsylvania.

He was also one of the founders of the Pennsylvania Chautauqua and at the time of his death was a member of the Board of Managers, for many years occupying the chairmanship of one of its most important committees, and was most helpful in establishing this very interesting and useful summer school at Mt. Gretna.

He took much interest also in the Pennsylvania German Society and generally attended its annual meetings, taking a part in the discussion of papers and assisting that society in its historic endeavor.

As may be supposed he was a leading member of the Lebanon County Drug Association, active in the support of every measure that would advance its interests, liberal in affiliation with his fellows in the drug business, and his counsel and co-operation were a valuable asset to this body. So high was their appreciation of him as a friend that on the day of his sepulture during the funeral service the drug stores were all closed, business was suspended for several hours, and the members of the association and their employees attended the services and became the escort from the home to the funeral train which conveyed his body to Elizabethtown for burial among his kin.

In 1881 he became a member of both the American Pharmaceutical and the Pennsylvania Pharmaceutical Associations; with the latter body he soon became an indispensable factor. In 1884 he was appointed a member of the important Committee on Legislation and in 1885 became its chairman and served almost continuously as a member of, or its chairman, until within a few years of his departure, with a lapse only of the year 1897–98 when he was elected President of the association; too much cannot well be spoken of the valued service he rendered. He was indefatigable in his work in the interest of the pharmacy laws now upon the statute books of the State, his great personality won the attention of members of the legislative body, and he became an influential factor in preventing vicious legislation and helping along on lines that produced the best we could obtain. From the memoriam passed by

the local association of druggists of Lebanon we cull the following as a feeling and appropriate expression: "We hereby testify to the valued service he has always willingly rendered in season and out of season for the advancement of the interests of the profession throughout the State of Pennsylvania, and we are not unmindful of his great activity and intelligent ability in the service of the Pennsylvania Pharmaceutical Association as a member of the Legislative Committee in the formulating and the enactment of pharmacy laws now upon the statute books of the State." Honest and fearless, he was bold and brave in pursuing his convictions with courage. As a member of and continual attendant upon the annual meetings of the association, his companionship and genial disposition always won the fellowship of the body. His contributions of a scientific character as well as the original poems he so freely injected into the annual meetings are a pleasing memory. The writer quotes as apropos from the *Druggists' Circular's* recent obituary: "Mr. Redsecker was a large man with a bright wit and a keen sense of fun and made friends where he went. His talent for versification was considerable and on various occasions he turned out impromptu verses of merit."

Mr. Redsecker felt a deep interest in the Philadelphia College of Pharmacy and for 25 years was the contributor of the Maisch Prize of $20 to the student that qualified in accord with the requirements. The College honored him in 1897 by conferring upon him the degree of Ph. M., Master in Pharmacy, the distinguished honor he very highly appreciated.

Mr. Redsecker held positions of trust. He was for several years a Director of one of the banks; Director and Treasurer of the Fidelity Building and Loan Association. For quite a number of years he held the position of the President and Director of the Farmers' Encampment that assembled at Mt. Gretna Park, holding exhibitions or bazaars of farming implements and machinery of all kinds; as a Director in the Cornwall & Lebanon Railroad he possessed privileges and information that materially aided him in the assumption of the important trust.

His patriotic impulses led him to join the Army for the suppression of the Rebellion and he was a comrade in arms with the writer enlisted in the 26th Regiment of Pennsylvania Volunteers. He had the rank of Corporal in Company E and was in service at the Gettysburg campaign, having enlisted for the war.

For a number of years after his entrance into the drug business he edited a Sunday School paper of the denomination to which he belonged—" The Sunday School Gem."

After a busy and varied life nigh unto three score years he has been called to the higher realization and the possible reward promised to him that was " faithful over a few things."

Jos. L. LEMBERGER.

THE DRUGGIST: HOW CAN HE AID IN THE CRUSADE AGAINST TUBERCULOSIS?*

BY PROF. JOSEPH P. REMINGTON, PH.M.

The druggist, or more properly, the pharmacist can give most material aid in the wiping out of the " white plague." His influence is far greater than that of the layman, and indeed in many cases he can do more good than can the doctor or medical practitioner. In the poorer and more thickly settled parts of the country, the druggist is sought as a first help. If an accident occurs in the street or a person is seized with apoplexy or epilepsy, the first thought is, " Get a doctor," but what almost invariably happens is the carrying of the disabled person into the nearest drug store.

The vast movement throughout the world to obliterate tuberculosis and the special education now being given through this splendid exhibition show that the people are in earnest, and the effective work of the noble men of the medical profession who are now giving the best service of their lives to the study of this problem entitles them to the everlasting gratitude of the entire community.

The microscopic researches of the great leaders in bacteriology and the practical work of the physicians who are reducing the results of the research workers to the concrete and providing the weapons to fight most effectively this scourge, all point infallibly in the direction of reducing the deaths to a minimum, with the ultimate hope that tuberculosis may perish from off the face of the earth.

The physician and the pharmacist are friends and co-workers in

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* Chairman's address on " Druggists' Day " at the International Tuberculosis Exhibition at Philadelphia, March 11, 1909.

every movement for the stamping out of disease, and if through circumstances the druggist must necessarily open a store where the public may purchase medicines and other means of affording relief from disease, this does not prevent his living up to the highest ideals and joining hands in this crusade.

It is a mistake on the part of the public to look upon the druggist merely as a business man having the sole idea of selling goods, without any concern for the higher motives of combating disease.

The clergyman, the physician, and the druggist must live: the clergyman is paid a salary and the doctor his fee. The pharmacist is equally a professional man, even if he owns a store. The question as to how each is paid for services is more a matter of form than of principle. One takes money from the public by a check, the other in small amounts paid over the counter.

The public is prone to regard the daily services of the druggist as trivial, because he has accustomed the people to the idea that they can demand services from him without pay or profit, and he has suffered in the public esteem from selling postage stamps, keeping a directory, answering inquiries, and furnishing information about nearly every subject under the sun. If ever there was a citizen who contributed valuable services day and night for the comfort of his fellows, the druggist on the corner is entitled to first place. If a baker, or grocer, or plumber is asked in his place of business whether Mr. Smith-Robinson has moved, or if the crape on No. 2308 One hundred and fifty-second Street means that old Mrs. Black is dead, and a gruff answer like, "I don't know anything about it" is given, nothing is thought of it, but woe betide the druggist on the corner if he does not know everything that goes on in the neighborhood. It is true that in a way this is a great compliment to the druggist. He must be alert, intelligent, amiable, and kind-hearted, and withal willing to suffer from a lack of appreciation of some of the best qualities that go to make up a good citizen.

But to be specific, how can the druggist aid in this crusade? In the first place, he must understand the underlying principles of bacteriology and he must study the elusive germ; he must learn that there are good and bad germs; he must be acquainted with the life history of the tubercle bacillus, and, having thoroughly mastered the main facts, he must apply them intelligently every hour that he is upon duty.

There are some druggists who will take the view that fresh air, pure water, milk, and such things have nothing to do with his business, and that he can make more profit in selling consumption cures and proprietary medicines than he can by joining in this new movement; but the alert, up-to-date pharmacist must read the handwriting on the wall, "Mene, Mene, Tekel, Upharsin." Let him take out of his windows the exhibition of consumption cures and clear out the closet devoted to these preparations. He will have to keep such things in stock, of course, for he must sell what the public demands, provided always that they are honest goods, but he need not and should not encourage their sale. Would it not be wise and business-like to show in his bulk window sputum cups, napkins, sanitary appliances, paper blankets, hoods, and mits, and might he not look forward to the time when he could become the agent for compressed air in cylinders, obtained from the mountain heights and the sea-shore, guaranteed under the Food and Drugs Act to be free from tuberculosis germs? He already sells cylinders holding compressed oxygen, and here in Philadelphia where we have suffered so long from impure water, containing typhoid germs, has he not established himself as headquarters for pure water in bottles, guaranteed to be aseptic and chemically clean?

Dirt has been defined scientifically by a trite saying as matter out of place, and this aforesaid dirt is closely associated with disease. Cleanliness, therefore, is one of the first requisites in the proper treatment of tuberculosis. It would hardly seem necessary to impress upon the minds of druggists the necessity for cleanliness. One of the means which has tended in the past to spread infection has been the employment of old bottles. It is often false economy to send any old bottle which may be lying around the house to the drug store to have a prescription filled.

The habit which many patients have of taking a dose of medicine from a bottle by removing the cork and taking what they think is about a teaspoonful by applying the lip of the bottle to their own lips is one which is more honored in the breach than in the observance, because in the first place it is a careless, inaccurate habit, the patients sometimes getting more than a teaspoonful and sometimes less, on account of their inability to judge how much they are taking, and it can readily be seen that a patient suffering from tuberculosis may contaminate the bottle through the sputa and saliva filled with germs, and another person following

after, taking the liquid in the same way, would be very likely to swallow some of the germs.

Then again, if the thrifty housekeeper sends a bottle so contaminated to the drug store to be filled with another prescription for a non-infected patient, and the apothecary fails to thoroughly clean such a bottle, tuberculosis is passed on to the unfortunate victim. The housekeeper should carefully destroy or completely sterilize bottles used by patients having tuberculosis or any contagious or infectious disease, and the apothecary should never trust an old bottle, but should make assurance doubly sure by washing thoroughly every bottle that has been used.

In fact, the habit of drinking whiskey or other liquid by passing the bottle around, as is often witnessed on railroad trains, is a bad habit which should be discontinued, if for no other reason than the possibility of transferring the tuberculosis germ from one person to another.

The pasting of a new label on top of an old one, possibly reeking with germs, a practice quite common in some neighborhoods, should be discontinued, and the public should refuse to accept medicine dispensed in this way. The act of washing off the old label will be pretty sure to result in the washing of the bottle and the disposing of the germs.

In conclusion, it might be stated briefly that the druggist might aid in this crusade by keeping in mind the possibility of contagion and the spreading of the source, as has been pointed out, and that he can serve the public and get at least some financial return by becoming an agent for the sale of sanitary appliances, particularly those recommended by experts. He should certainly discourage the sale of proprietary remedies, which are now known to be not only worthless, but, by raising false hopes of cure on extravagant claims, delay or prevent the patient from procuring relief through the sources which are now known to be most effective in combating the "white plague."

FOOD AND DRUG ADULTERATION AS A FACTOR IN THE PREVENTION AND CURE OF TUBERCULOSIS.*

By Charles H. LaWall, Ph.M.,
Associate Professor of Pharmacy at the Philadelphia College of Pharmacy, and Chemist of the Pennsylvania Dairy and Food Department.

I have been asked to say a few words this evening upon a subject which a few years ago would not have been considered as a factor in the prevention and cure of tuberculosis. It is recognized at the present time, however, that no greater factor exists than that which takes into account the quality, nutritive value, and palatability of the food which we eat. The recent advancement in what is now known as preventive medicine is due to a recognition of conditions of the human organism which in a state of health is enabled to ward off attacks of certain diseases by virtue of the activity of particular cells in the blood, known as white corpuscles or phagocytes. The duty of these cells is to destroy all invading germs, and the health of the individual and his capability of resisting disease are found to be directly proportional to the activity of these minute cells, which have appropriately been termed the "policemen of the blood," on account of the manner in which they attack and destroy the harmful germs.

As the activity of these important cells is directly proportional to the state of health of the body, and as one of the most important functions of food is to furnish the tissues with a supply of healthy blood, it will be seen that the influence of nourishing food in proper amounts as a factor in warding off impending disease, as well as in aiding in the recovery from disease which has already obtained a foothold, is not to be underestimated. It therefore logically follows that food products which have been debased in any way, either by the substitution of inferior materials or the addition of preservatives that retard or destroy the activity of certain bodily functions, more particularly the digestive processes, are detrimental to the health and normal condition of the individual and are therefore to be suppressed as far as possible.

Medical science has made such rapid strides in the perfection of precise methods of diagnosis and recognition of abnormal con-

* An address delivered at the International Tuberculosis Exhibition at Philadelphia, 1909.

ditions, that it has seemed to outstrip the commercial enterprises which have to do with the preparation and sale of food stuffs, but a closer examination of the facts clearly shows that this lack of progress is apparent and not real. When we compare existing conditions in our own city and State along the general line of food and drug adulteration with those of only five years ago, we will seem to have stepped from darkness into light, so marked has been the actual progress to those who have been in a position to closely observe it. From the numerous instances which have come under my observation during the past five years I propose to briefly consider a few of those which are more important.

The title "olive oil" has always been understood by the consuming public to mean the oil expressed from olives, but a few years ago the material which was sold as olive oil in the majority of cases consisted of cotton-seed or some other inferior vegetable oil. Now olive oil in its pure state has a recognized food value, and is frequently prescribed as an addition to the dietary of poorly nourished persons, particularly those suffering from so-called wasting diseases, such as tuberculosis. While it is true that a prime or first-class variety of cotton-seed, peanut, or sesame oil also possesses food value, it is also a fact that the substituted oil in most cases was found to be of very inferior quality, often slightly rancid, and the substitution was therefore prejudicial to the health of the consumer as well as to his pocketbook. The deception in the case of olive oil was all the more flagrant on account of the fact that the style of the packages was intended to convey the impression that they were original, as imported, being close imitations of genuine original packages, and, as a rule, the degree of adulteration was in direct ratio to the number of medals pictured on the label and the claims for purity of the product. This nefarious practice has been almost entirely wiped out, and the payment of fines in no less than twenty-five or thirty cases brought by the Pennsylvania Dairy and Food Department was undoubtedly the main factor in bringing about the observance of the law with regard to this product which is so marked at the present time.

Milk is a food product second in importance to no other, and as it is almost the sole article of diet of a large proportion of our population, and has an important place in feeding tuberculosis patients, its purity should be unwaveringly maintained. Strict and careful supervision by municipal authorities has been supplemented

on numerous occasions by investigations conducted by the Dairy and Food Department of the State, and while the use of injurious preservatives has been almost discontinued in consequence of certain prosecutions brought by the latter authorities, in which imprisonment was the punishment inflicted upon the violator, there is still much room for improvement as regards the enforcement of a law prohibiting the watering and skimming of milk. The Dairy and Food Department has been hampered in this particular direction by the fact that the only legislation applicable to the subject provides that the penalty shall be inflicted only upon those who "knowingly" violate the law. As it is practically impossible to obtain a conviction under such conditions, the fact that watered or skimmed milk is not more frequently found is due to the honesty of the large majority of milk dealers. It is particularly unfortunate, however, that most of the instances of watered or skimmed milk observed in the work of the Department have been in the congested or so-called "slum" sections of the city, where the struggle for life is already so great that the supplying of milk which has had its nourishing constituents either partly removed or diluted must be a contributing factor in the high mortality of these sections of our city.

Cake is not a necessary article of food, but is a frequent addition to the dietary of a large proportion of our population. The substitution of artificial yellow coloring matter in order to give the appearance of richness due to eggs, in imitation of the home baked product, was for a time almost stamped out, but is again being practiced to a greater or less extent. In a number of prosecutions brought by the Department several years ago, the article in question was chocolate coated cake in which the yellow color was due to coal-tar color and the chocolate was imitated by adding burnt umber to the icing—an addition of a mineral substance which was not only a deleterious ingredient, but one that replaced chocolate, a substance having a high and recognized food value. In this same connection might be mentioned the fact that instances have been frequently found in which chocolate has been substituted in great part by starchy materials of much less nutritive value.

The recognized food value of sugar has led to its increased use in recent years, but there has also arisen a class of synthetic or purely chemical substances whose high sweetening power has led to their employment as substitutes for sugar in certain articles

of food and drink. These sweetening substances are known to the trade under various names, the most frequently used being saccharin. The fact that saccharin has absolutely no food value and is used to replace sugar, which has a high food value, should alone be sufficient reason for its prohibition in general food products, such as canned goods and soft drinks, but when we take into account that the investigations of foreign authorities have so emphatically placed the ban upon it as to prohibit even its importation into such countries as France and Italy, there should be no further hesitation in refusing to countenance its use.

Gluten flour is a term used to designate a flour which is especially high in the constituent known as gluten and in which the proportion of starch has been correspondingly reduced. Such a product is frequently recommended as an article of diet where starchy foods are to be avoided as far as possible. Several years ago nearly every sample of gluten flour was found to be of little more value than ordinary flour, but at the present time there is more general conformity with the standard of 35 per cent., which has been set as the minimum limit for the amount of gluten that this product should contain.

The subject of meat extracts, which are used so frequently by those who are in an enfeebled state of health, is another one in which great improvement has been noticed. The absence of definite standards led to the manufacture and sale of numerous products of variable value, some of which were made by the concentration of corned beef liquor and which therefore contained saltpetre in appreciable amounts. While there is still room for considerable improvement in this direction, I believe that all of the second grade brands are now correctly labelled, so that the purchaser may know the quality of the article supplied and may be forewarned of the presence of substances foreign to a high-grade product. It would be well if it were a more generally recognized fact that meat extracts, as a rule, possess very little actual food value, but are principally useful for their stimulating properties, and that some of them contain as much as one-fourth of their weight of salt. The price at which they are sold averages more than $2.00 a pound, so that the addition of salt beyond the amount necessary to season is a source of added profit for the manufacturer.

Five years ago the addition of such preservative substances as boric acid and sodium sulphite was of common occurrence in fresh

meat products, such as hamburg steak. In 1904, after a protracted trial of a prominent meat dealer who was prosecuted for using these substances in hamburg steak, a verdict of guilty was rendered by the jury. This verdict was subsequently confirmed by the Supreme Court and since that time but one case of adulterated hamburg steak has been observed in numerous samples which have been investigated.

Glucose as a substitute for cane sugar in preparing certain articles of food has long been recognized as a legitimate addition to food products where its presence is not concealed. Until about three years ago, however, the glucose found upon the market was bleached by a chemical process whereby the finished product was contaminated with sulphurous acid, very frequently to the extent that candy made with such glucose was observed to leave a sulphur taste in the mouth and throat. The Pennsylvania Dairy and Food Department made an investigation of this condition of affairs, particularly with relation to candy, although this same quality of glucose was used in table syrups, cheap preserves, and other articles of food as well, and after inaugurating several hundred individual prosecutions against retail dealers the matter was adjusted by the glucose manufacturers' assuming the responsibility for the payment of all fines and a promise of withdrawal of all bleached glucose from the Pennsylvania market. At the present time, therefore, glucose and all products into whose composition it enters are entirely free from sulphurous acid.

The Department is now waging a relentless warfare against the sale and use of decaying and decayed eggs in food products. It seems almost incredible that an article so nauseating as a partly decayed egg should be used, but such has been found to be the case. It is stated that in baked products, particularly in some kinds of cakes, the odor and flavor of the partly decomposed eggs bakes out, and from samples which have been submitted to me this statement seems to be true. There is no doubt, however, that partly decomposed eggs, even if palatable food products can be prepared from them, must necessarily be unwholesome, and possibly the use of such eggs is a contributing factor in the obscure cases of ptomaine poisoning which are sometimes reported, and which upon investigation lead to no definite conclusion. The inadequacy of existing legislation is at present responsible for the failure to suppress the evil, and too much cannot be said in condemnation of

the efforts of those who are trying to prevent the passage of the bill framed to prohibit the use of unsound eggs in food products which is now before the Legislature at Harrisburg. So long as this vile business is profitable so long will certain manufacturers continue to use even such unwholesome, revolting products as rotten eggs. It has been well said that there is no such thing as a "pretty good" egg, and the argument of one of the dealers who supplies certain bakers with this class of material, that a rotten egg is just the same as an apple with a rotten spot in it, and that the removal of the rotten spot is all that is necessary, the rest of the egg being wholesome, is hardly tenable.

In closing I wish to briefly refer to the question of drug products, particularly nostrums, which, while they do not come under the provisions of the food law, nor of any other law in this State, are frequently inimical to the health of the individual who uses them. The injustice of allowing the nostrum maker to put upon the market preparations, often containing powerful narcotic drugs, without any restrictions as to his qualifications, while the physician in order to prescribe these same drugs is required to study for not less than four years, and the pharmacist in order to dispense the physician's prescription is required to complete a course of not less than two years, has never been properly realized by the public at large. Both physician and pharmacist, after completing their respective educational courses, are required to pass examinations for registration before entering upon the practice of their professions, but any citizen of the Commonwealth, no matter how little education or skill he may possess, may undertake the manufacture and sale of medicines containing powerful narcotics or habit-forming drugs, with the single exception of cocaine, without any restrictions whatever.

At the present time there is almost universal conformity with the letter of the law as regards the labelling of drug products, but it will be found that the newspaper and bill board advertising of both food and drug products is subject to no restrictions whatever. The daily papers are filled with advertisements of fake remedies, some of them purporting to be home prescriptions, in which one of the ingredients is always a secret proprietary article. Many of them advocate the use of whiskey or narcotics in the treatment of coughs and colds, and all of them, from the standpoint of intelligent medical criticism, are open to the objection

that they are not at all suited to individual cases. This is particularly true of many so-called cough cures and consumption remedies which are widely advertised and sold, and often used in cases of incipient tuberculosis, the great danger of these preparations lying in the fact that many of them allay or appear to cure the symptoms and thus lull the patient into a false sense of security, while the disease is meanwhile obtaining a firm foothold in the system, the patient discovering too late that the remedy which seemed to cure has but kept him from consulting proper professional aid and from obtaining real and lasting benefit.

It is a well-recognized fact that the solar plexus of the modern magazine and newspaper is located in its advertising columns, and that there is frequently a lack of harmony and close agreement between the advertising and editorial columns of the same publication. The reason for such disagreement is not always due to wilful intention to deceive or mislead the public, but to ignorance or neglect of scientific and incontrovertible facts. No publisher would believe or permit to be printed in a reputable newspaper, except as a joke, the claims of an advertiser who stated that he had for sale a line of suits of clothes, all of the same pattern and size, yet guaranteed to fit any purchaser irrespective of his style of personal architecture; and yet the claims of the nostrum maker who advertises a remedy to cure some specific disease, irrespective of its stage of development or personal idiosyncrasy of the patient toward the medicine, is just as mendacious, and still our papers teem with advertisements which would serve for amusement were the matter not so serious. The time must come when there will be control or censorship of all advertisements of nostrums. It would be very much more creditable to the journalistic press if this step were taken voluntarily, as has already been done to a limited extent by some of its members. Even at the present, while columns of news space are generously devoted to the dissemination of information relative to the prevention and intelligent treatment of tuberculosis, advertisements are appearing, often in adjacent columns, of nostrums guaranteeing to relieve, and in some cases to cure, consumption.

I would be derelict in my duty did I not have something to say about the labelling of both food and drug products at the present time. In the dark ages, when the alchemists sought in vain for the philosopher's stone and the elixir of life, and by

their labors laid the foundations for many of our modern sciences, the use of meaningless expressions and the clothing of ideas in language which was unintelligible to the masses and often probably to the writer himself was considered a mark of erudition. There are some arts which are not to be considered lost. Some manufacturers emulate this characteristic of the alchemists with a similar end in view—to confuse and befool the masses. The use of language which is within the letter of the law as to its applicability, and yet which is obscure to a large proportion of purchasers, is frequently seen. The use of the word "artificial" for "imitation" or "substitute" is a case in point, as is also the use of the word "simulated" for "imitated." One instance recently came under my observation where a bottle of lime juice was labelled to the effect that "each reputed pint" contained a certain amount of preservative. The capacity of the bottle was found to be about eleven and one-half ounces, or less than three-quarters of a pint.

The laws covering the misbranding of products are so well enforced that deliberate misstatements are now confined to bill board and newspaper advertisements, and obscurity is relied upon to keep the purchaser in ignorance so far as the label is concerned. The average housewife has not yet acquired the habit of closely scrutinizing the labels of the foods she buys, or of discriminating between the foods which are pure and those which have been debased by the addition of some cheaper material. If half the interest were displayed in intelligently selecting foods of unquestioned quality as is shown in buying dress goods, ribbons, and laces, many manufacturers would either have to improve the quality of their goods or go out of business.

When these facts are once properly realized by the public whose health is at stake, and when proper education is disseminated as to the necessity of carefully criticizing every label of every article purchased, there will be a fulfilment of the expectations held forth in our modern food and drug legislation.

DRUGS AND THE DRUGGIST IN RELATION TO TUBERCULOSIS.*

By Henry Kraemer, Ph.D.

Notwithstanding the maddening rate at which we Western peoples are moving through time as well as space, producing thereby a long train of nervous disorders, and sometimes even instant death from the snapping of the vital cord, we are at the same time growing optimistic in regard to the question of the prolongation of human life. For this there is ample justification, as on the one hand we have the facts to show that the average length of life is on the increase, and, again, we see, as never before, the beneficial results which follow from the use of good food and from hygienic and congenial surroundings. Still more do we see the positive results which have been accomplished by medical science in the prevention and treatment of infectious diseases, so striking in the case of smallpox, as also by modern surgery through the application of the principles of asepsis and antisepsis.

Thus it follows that we are beginning to form hundred-year clubs, in which it is held to be a disgrace for the members to die before having attained the age of one hundred years.

All of these movements are but the signs of the advancement that is being made by education and science, and all of them are intimately connected with our social progress and ideas of citizenship. I cannot illustrate this better than by giving Senator Chandler's idea of a citizen. He was visited by a delegation who were desirous of having him assist them in the selection of a mayor of Concord. Name after name was offered to the Senator only to be rejected. Finally one of the delegates asked, "Well, who in thunder do you want anyway, Mr. Senator? How are we going to know when a man does possess the qualities that will entitle him to your approval?" The Senator replied in a quiet way, "When you find a man who isn't ashamed to show respect for women, love for children and animals, and who will walk to the edge of the sidewalk at midnight, when no one is watching, to do his expectorating into the street, you may be sure that he possesses all

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*Address delivered to pharmacists at the International Tuberculosis Exhibition at Philadelphia, March 11, 1909.

the civic virtues and is fully worthy of any office you may be able to give him."

Tuberculosis, as all of us know, has proved to be one of the greatest scourges with which mankind have been afflicted, not only on account of its not yielding to medical treatment, but also because of the insidious and at the same time infectious character of the disease. In the case of the other infectious diseases, as scarlet fever, typhoid fever, and smallpox, the victims have been carried off by hundreds and even thousands in the course of a few weeks or months, and thus mankind have been appalled at their ravages, while with tuberculosis the victims pass away one by one, and the people in general do not realize the large number of victims claimed annually by this disease in the very heart of civilization. In other words, we are still frightened when we hear of a case of smallpox and more or less indifferent when we hear of a death from consumption, and yet in the State of New York in 1907, to mention one example, ten persons died of smallpox to over fourteen thousand of consumption. This simply means that the victory in the battle against smallpox has been won, while in the case of tuberculosis the battle has only fairly begun.

In the former group of diseases, according to modern methods, the patients are isolated, and danger of others' contracting the disease is reduced to a minimum, but with tuberculous patients no such general methods of isolation have been adopted, and the patient may go on spreading the infection for months and years by handling money, books, and other objects that are handled by other people, by spitting and coughing in their presence, or by expectorating on sidewalks and in other public places.

I fancy that if the material expectorated on our streets were by any process to become petrified and thus preserved for the inspection of future generations, we would be looked upon as barbarians. As it is, it is inconceivable that any one of ordinary knowledge or decency would spit directly on the sidewalks where others have to walk; and so we are led to infer that it must be either the ignorant or vicious who habitually indulge in this practice. But granting that it is the latter class who are thus guilty, it is almost equally inconceivable that such a practice should be tolerated in any enlightened community.

It is known to all of us that whatever has been said about the hereditary transmission of tuberculosis and its contagious character,

the microscopic organism which causes the disease, namely, the *Bacillus tuberculosis,* is present in the sputum, or expectorated matter, and is also found in the spray-like ejections accompanying the coughing and sneezing of tuberculous patients. Hence, these matters furnish direct sources of the disease.

For this reason, I wish to point out, before taking up the rôle which drugs have played in the treatment of this disease, that druggists should use the utmost care and cleanliness in handling the prescriptions, bottles, and other objects brought into their stores by those suffering from tuberculosis. And, if I were to recommend what I really believe to be desirable, I would say that the bottles should not be accepted for refilling or else should be sterilized, and that some means should also be devised for receiving and handling such prescriptions. Of course, unless practices like this are intelligently carried out, many oversights and inconsistencies arise which throw discredit on the work. You all know the story of Pasteur, who, after having washed some cherries in a tumbler of water, absent-mindedly drank the water. However this may be, the question should receive our thoughtful consideration.

DRUGS USED IN TUBERCULOSIS.

To the casual observer at this Exhibition three things are brought to his attention: (1) the conditions of life that tend to the development of tuberculosis; (2) pathogenic effects produced in various tissues and organs, and (3) illustrations of the hygienic methods used in the treatment of tuberculosis. It would therefore appear that at the present time drugs and druggists play a very minor part in the movement for the eradication of consumption, and yet it can be shown that the druggist has a genuine and distinct part to play in this crusade.

The number of remedies and methods which has been proposed and used in the treatment of tuberculosis is legion. If we go back to the middle of the eighteenth century we find in a medical work written by John Wesley [1] that the methods of treatment were somewhat as follows: One in a deep consumption was advised to drink nothing but water, and to eat nothing but water-gruel, without salt or sugar; or to take a pint of skimmed milk, with half a pint of small beer, and boil in this whey about twenty ivy leaves and two or three sprigs of hyssop, and to drink one-half of the liquid over night and the rest in the morning. It may be pointed

out that the principal difference between this and the modern method is that beer and alcoholic liquors are now forbidden. Another remedy combined a cow-heel from the tripe house ready dressed, two quarts of new milk, two ounces of isinglass, a quarter of a pound of sugar candy, and a trace of ginger. The benefits of fresh air were apparently recognized. The patient was directed to cut up a little turf of fresh earth every morning, and lying down to breathe into the hole for a quarter of an hour. Bloodletting was advised for a patient who was so weak he could not stand, and this was to be kept up for a fortnight if he lived so long. Inhalation methods were also used.

Coming to the middle of the nineteenth century [2] and later we find that in addition to the teas, syrups, and other cough remedies and inhalations, the patients were often advised to take twenty or twenty-five drops of laudanum every night, and if this did not give relief they were advised to take an emetic of ipecac every day until relieved. For pain and great soreness of chest it was advised that "a blister should be drawn and repeated, if necessary or serviceable." Pitch plasters were also recommended. Tartar emetic was likewise directed to be used as a counter-irritant, being applied where a blister had been previously applied, thus keeping up the soreness. However, the patients were advised against strong medicines and to use proper food and frequent exercise in the open air; and the beneficial effects of these latter agents were emphasized, showing that whatever were the theories in regard to the cause of the disease, the treatment was quite rational in some respects.

Following the discovery of the tubercle bacillus by Koch, in 1882, antiseptics and disinfectants had quite a vogue in the treatment of tuberculosis. Some of the most powerful gases, including chlorine, hydrogen peroxide, hydrogen sulphide, sulphurous acid, formaldehyde, and hydrofluoric acid gases, have been used as inhalations. The gases were generated in special chambers or in the sick room, and it was claimed that the bacilli were destroyed, and the toxins oxidized and finally eliminated. Some of the antiseptics were administered internally with the idea of their being eliminated through the lungs and thus having a direct action on the bacilli, as iodoform and creosote. Even injections into the pulmonary cavities of mixtures of eucalyptus oil and iodoform have been resorted to, which method Stillé says is more remarkable for its boldness than for its reasonableness or success.

A few years ago in an address before the British Medical Association Dr. Goodhart [3] summed up medical opinion in regard to this class of agents in the following words: "Antiseptics in lung diseases from all the many inhalations up to iodoform, and finally creosote internally, have had a good inning and have not been without their minor successes; but it was very mete and right that the comparative inefficacy of such nauseous medicaments should drive us back into the arms of the great original antiseptic---fresh air."

The drugs which are used at the present time in the treatment of tuberculosis may be grouped under the following heads: (1) the so-called tonics, including preparations of iron, and the hypophosphites; (2) foods, as cacao butter, cod-liver oil, olive oil, and koumiss; (3) medicines tending to aid digestion, as pepsin, pancreatin, with or without hydrochloric or phosphoric acid; (4) expectorants, as balsam of tolu, wood tar, and cocillana; (5) inunctions, as of iodoform or europhen; (6) simple home remedies, as colt's-foot, comfrey, lungwort, Iceland moss, scarlet pimpernel, and water hemlock. Over a hundred synthetics and other chemicals have come into use in the treatment of tuberculosis probably within the past twenty or twenty-five years, including the salts of guaiacol, heroin, thiocol, and europhen.

In going through the literature relating to the medicines used in the treatment for tuberculosis, one feels that apart from those prescribed for certain special symptoms or conditions, as of hemorrhage or coughing, they seem to be used more or less at random, or in other words the treatment seems to be more or less experimental. Yet notwithstanding this apparent latitude in the selection of remedies, there are some writers who appear to have reduced the treatment to a rational system, in which certain remedies are given with a view of producing a definite effect. Sajous [4] has elaborated a very attractive theory in regard to the nature of tuberculosis, and the remedies to be used in stimulating the patient to destroy the tubercle bacillus and its toxin. According to Sajous the following drugs when administered internally have the property of destroying the tubercle bacillus and its toxin (endotoxin): potassium iodide, thyroid extract, and salts of mercury. In addition to out-door life as a means of increasing nutrition and thereby the protective efficiency of the lungs, he recommends creosote carbonate, strychnine, and digitalis. Among the agents which are

considered to have a specific action by indirectly destroying the tubercle bacillus are the tuberculins. According to one theory the tuberculins increase the amount of certain constituents (opsonins) in the blood, which in turn affect the bacilli in such a way that they are taken up and destroyed by the white blood-corpuscles. There is a tendency in tuberculosis for the alkalinity of the blood to be reduced, and this is maintained by the use of sodium chloride and combinations of salts as in sea-water. Although there may be no one remedy thus far discovered which can be relied upon as a cure for tuberculosis, there are certain medicines which are very useful in the treatment of the special symptoms and conditions which arise during the course of the disease, as bromide of sodium, oil of sandalwood, oil of eucalyptus, hydrastis, and chloroform for coughing; morphine, veratrum viride, potassium bromide, and certain auxiliary measures for the hemorrhage (hæmoptysis); atropine, camphoric acid for the night sweats; and saline solutions for the fever.

Thus it is seen that the list of medicines that have been or are used in the treatment of tuberculosis is a long one, and while a moderate number of them are beneficial under certain conditions, it is generally admitted that among the ordinary forms of medicine no specific for the disease exists. Besides, it should be emphasized that the disease is of such a serious character that it should always be treated by the skilled physician, even by the specialist. Moreover, if the disease is not properly diagnosed and treated in the early stages, a cure can rarely be effected.

The common saying that if a remedy don't do any good it won't do any harm is one of the most harmful pertaining to the use of medicines. Such a rule does harm in two ways: In the first instance, proper treatment may be delayed and the disease may gain such a headway that cure is difficult or impossible. In the second instance, supposedly simple or commonly used remedies might be used in cases where certain complications exist and have just the opposite effect from that desired. It is well recognized, for instance, that iron [5] is useful in anæmic conditions, but if given in case of tuberculosis where the number of red blood-corpuscles is normal, it might induce the hemorrhage or hæmoptysis, or hasten the progress of the disease. To indicate still further to the public as well as the druggist the caution which should be exercised with reference to self-medication or in advising others, Dr. Sajous

states that even in the case of coughs of obscure origin, especially those ascribed to colds, he treats them as if he were dealing with incipient cases of tuberculosis. It is true that in some cases the patient is able to overcome the disease by attention to his general health, but again I would emphasize that the responsibility is too great for the druggist to make any attempt at its treatment, and for the sake of the general community as well as the patient himself he should be strongly advised to consult a physician or to go to a dispensary. Here is where the druggist can render a great amount of assistance to the patient as well as to the community. It is probably true that the majority of persons having tuberculosis go to the druggist in the early stages of the disease for cough medicines and simple remedies, and probably for advice. Thus it follows that the druggist has an opportunity for properly directing this class of persons, and he should fully realize the responsibility which rests upon him.

There is another phase of this question upon which the druggist should take a positive stand, namely, in his opposition to the sale and use of patent medicines which are advised as cures for tuberculosis. In some cases they may be harmful; in other cases they may be harmless, but at any rate they require the patient's money and delay proper treatment in the early stages of the disease when, if ever, a cure can be effected, and in this way are decidedly harmful and therefore should be condemned by the druggist. This is the responsibility which he should assume.

This question is of so much moment that last year the Committee on the Prevention of Tuberculosis of the Charity Organization Society of the City of New York passed the following resolution:

"WHEREAS, In our opinion there is no specific medicine for this disease known and the so-called cures and specifics and special methods of treatment (by electricity, X-rays, electric light treatment, "diet" cures, plasters, serums, etc.) widely advertised in the daily papers are, in the opinion of the Committee, without value and do not at all justify the extravagant claims made for them, and serve chiefly to enrich their promoters at the expense of the poor and frequently ignorant or credulous person suffering from tuberculosis; therefore,

"*Resolved,* That a public announcement be made that it is the unanimous opinion of the members of this Committee that there

exists no specific medicine for the treatment of pulmonary tuberculosis, and that no cure can be expected from any kind of advertised medicine or method, but only from a sufficient supply of pure air, nourishing food, needed rest, attention to the hygiene of the skin, and such medicine as appears from time to time required, in the judgment of a physician."

To give still more authority to this part of the argument, I wish to make one quotation from the *Journal of the American Medical Association.* It is as follows: "The patient had wasted nearly eight months of precious time, closely housed and depending on the restorative virtues of Manola, instead of consulting a physician at a time when a properly regulated out-of-door life might have saved him."

I therefore hope that the time is at hand when no druggist worthy of the name will sell, even when asked to do so, a so-called consumption cure. Probably in no other way would the physician have a better means of judging of the professional character of the druggist than by his attitude on this question, and probably in no other way could the druggist show to better advantage those positive principles which should actuate him than by refusing to sell these remedies.

I have ascertained that there are at the present time about one hundred patent or proprietary consumption cures on the market, and some of them are advertised with remarkable ingeniousness and effrontery, their proprietors taking advantage of nearly all the arguments known to science and ethics. As if to steer clear of all objections that might come from an authoritative source, one of these concerns distinctly states in their circular that their remedy contains none of the drugs required to be mentioned on the label under the Section on Misbranding of the Food and Drugs Act, such as morphine, cocaine, and acetanilide, and no coal-tar derivative or any poisonous drug; and then goes on to state that it is "guaranteed by the makers to conform to all the provisions of the Food and Drugs Act, June 30, 1906, No. 1242." There are one or two features about these statements which show the degree of advancement to which this firm has attained. In the first instance it may be mentioned that coal-tar derivatives do not find favor with therapeutists in the treatment of tuberculosis, and therefore this firm has found it desirable to state that their preparation does not contain them. Again, as another evidence of their

strict honesty, they do not claim that their preparation is guaranteed by the Government, as some less far-sighted have done, but claim only that it is guaranteed by the makers to conform to all the provisions of the Food and Drugs Act. "A few pointed truths" are given for "those who may be inclined to consumption," in this circular, following which is some matter that we are asked to read carefully. This I did, and find that their's "is a remedy that destroys the tubercle bacilli" and that "this has been proven by microscopical examination." As if this would not silence or satisfy the most sceptical or critical, we learn further on that "several hundred clergymen are using and endorsing the remedy, and that it is not advertised in the newspapers and never has been." Then coming to the fourth cover page of this remarkable booklet, we find among other things that the patient is directed to ask his druggist for the remedy, and that the price is two dollars a bottle, all of which should lead to a favorable impression of its value and respectability.

Without unduly enlarging upon the subject of patent medicines, I merely wish to repeat the words of Samuel Hopkins Adams: "One and all, the men who advertise medicines to cure consumption deliberately traffic in human life."

A NEW FIELD FOR THE PHARMACIST.

There is still another line of work in which the druggist can engage in co-operating with the physician and health authorities in dealing with tuberculosis. In some of the other lines in which the druggist is called upon to take a definite stand, as already indicated, the questions that he has to consider involve purely ethical and economical principles, such as moralists or students of social science might consider, but in this other field of work which should claim his attention his ability as a scientific and practical worker will be called into play. Next to the discovery that tuberculosis is a germ disease, probably the most important fact to be recognized is that it is a communicable or contagious disease. The knowledge of the former enables the physician to treat the disease in a rational manner, and of the latter to devise and practice measures which will limit and prevent its spread. This means eternal vigilance on the part of all of those having the care of tuberculous patients. Moreover, the actual amount of practical scientific work to be done in caring for and treating this class of patients in this

country is so large that, notwithstanding the number of hospitals, dispensaries, sanitaria, and private laboratories, we learn from good authority that the force is not by any means adequate to carry it on properly. In a paper on "The Crusade against Tuberculosis," read before the Third Maryland State Conference of Charities and Corrections (1907) by Dr. Lawrence F. Flick [6] he said: "Inasmuch as disinfection of places and things which have been contaminated by disease is a very large, extensive project, it might be well for governments to lay down general principles, and in many instances permit individuals to carry out the disinfection upon these principles. In this way every druggist in the land, for instance, might be made an agent of preventive medicine, and a useful field of activity for the druggist might be thus established." This suggestion of Dr. Flick's seems to me to be a very timely one, and I feel sure that if druggists were to announce their willingness and readiness to carry on the work of disinfection, the effort would prove a fruitful one to them. They might not only be able to co-operate with boards of health in disinfecting houses and various contaminated articles where provision is made for defraying the expenses by the municipal and State authorities, but also might be able to carry on the work of disinfection for that class of persons who are able to pay for such services, and might perhaps prefer to have it done in this way. The methods used in disinfection are very simple so far as the pharmacist is concerned, he having a thorough knowledge of the processes used and the properties of the chemicals employed. The methods directed by the boards of health require no expensive apparatus, and thus practically the whole expense would be in the time consumed and for the chemicals employed.

In this same line of work may also be included certain microscopical and chemical examinations, which the pharmacist is able to carry on, or should be able to carry on with very little additional training and practice, as in the examination of the urine, sputum, and blood in the diagnosis and prognostication of the disease. In the early stages of the disease it appears to be somewhat difficult to diagnose it, and it is stated that it is frequently mistaken for malaria. In instances of this kind examination of the blood would show whether the disease is malaria. In diagnosing tuberculosis a bacteriologic examination of the sputum is now commonly made. It being true that in the very early stages of the disease the specific

organism causing the disease may not at first be found in the sputum, it is necessary to examine a number of samples before positive results are obtained. In the more or less local affections of tuberculosis, as of the kidneys, chemical and microscopical examinations of the urine and fæces are also resorted to.

Biologic examinations of this kind are sure to come more and more into use in the diagnosis and treatment of tuberculosis, and while the boards of health are ready to do this work, as they are that of disinfection of dwellings and clothing, there are many physicians who, for their private practice, prefer to have the work done by pharmacists. In New York City there is an arrangement whereby certain druggists act as the agents for the board of health in receiving samples of sputum and for distributing certain articles that are given to tuberculosis patients, as paper spit cups, etc., and their stores are also depots for the antitoxin and vaccine used by the Department.

If the pharmacist shows himself alert and capable of carrying on this class of work, I see no reason why it should not open up an interesting and profitable field for him, and one which ought to give him far more satisfaction than that of acting as the agent of patent medicine concerns. The sooner the pharmacist can establish himself on those broad humanitarian principles which lie at the foundation of medical practice, the sooner he will come into his own, not only as regards his relation with the physician but also in his estimation by the public. He needs that faith which will enable him gladly to let go of some of the petty merchandise which he handles, and to branch out into wider scientific fields. Only by being true to the highest traditions of his calling can he hope to hold his place in this great forward movement of science, education, and humanitarianism.

It is gratifying to reflect in this connection that away back in 1821 the pharmacists of this city took up the subject of secret and quack medicines, and ever since have done what they could "to strip quackery of some of its mystery and borrowed plumes, and expose, in naked deformity, its shallow and wicked foundation." Later this first step against quackery and fraud had its fruition in the founding of the American Pharmaceutical Association in 1852, which was primarily established with the object of preventing the adulteration and sophistication of drugs, and whose work during all these years largely paved the way for the enactment in 1906

of the National Pure Food and Drugs Law. And with the present educational and professional awakening we are justified in looking forward to the centenary of this first upward step in this country with confidence and hope.

HEALTH OF THE PHARMACIST.

While we see in the post-graduate courses of the American Pharmaceutical Association an evidence that American pharmacy is steadily advancing, and while the pharmacist undoubtedly recognizes that health is a social product, to use the language of President Eliot, he has in the past failed to consider himself sufficiently, and by his attention to his duties and indoor life has been sacrificing his own health. That this is true is shown by statistics. We find that in the list of death-rates from consumption among men in fifty-three occupations in the United States, in 1900, apothecaries and pharmacists are thirty-seventh on the list beginning with those who are least affected, namely, bankers and brokers, while teachers who are also more or less confined are only eleventh, and physicians only fourteenth on the list.

The American Federation of Labor in beginning its war on consumption recommends among other things, (1) continued agitation for a shorter work-day to a maximum of eight hours; (2) release from work at least one full day in seven; (3) a Saturday half-holiday at least during the summer months. It can hardly be gainsaid that pharmacists should make a similar advance. While there are some pharmacists in this city and in other parts of the country who close their stores a portion of the day on Sunday, and close them comparatively early in the evening on other days, still their day is a very long one, and it is therefore to be hoped that for the sake of their health as well as the advantage to be gained in other ways all of the pharmacists of this city will join in a renewed and concerted effort to reduce the number of their working hours. In addition, they should pay strict attention to the cleanliness of their stores, keeping them as free from dust as possible, and also well ventilated. Furthermore, it seems to me that they should be particular not to employ persons suffering from tuberculosis, and, lastly, should endeavor to get into the open air for a short time at least every day. In other words, while helping to take care of other people, we must not forget to take care of ourselves.

SUMMARY.

In summarizing my remarks, I may say that I endeavored to show that drugs, in the hands of the physician, play an important and necessary part in the treatment of the conditions accompanying tuberculosis, but that self-medication is to be at all times discouraged. It was also shown that the use and sale of patent medicines, intended as consumption cures, are wholly to be condemned, and in my opinion should be as much prohibited by law as the traffic in cocaine.

The claim was made that as a scientific and professional man the pharmacist has a very important part to play in the crusade against tuberculosis, and that the services which he can render in this capacity are not only recognized but desired by all those having a genuine interest in this movement. Three ways were suggested in which the pharmacist can co-operate with physicians and the health authorities: (a) by properly directing persons having or suspected of having tuberculosis and who come to him for medicine or advice; (b) engaging in the disinfection of rooms, dwellings, and articles used by consumptives; and (c) by the examination of samples of sputum, blood, etc.

It was pointed out that pharmacists are more or less prone to tuberculosis, and that they should take measures to protect their own health.

I desire in addition to suggest that the pharmacist should use his influence and the special knowledge which he possesses in furthering the general educational campaign against promiscuous spitting in public places, and in various other ways and as a citizen and professional man in urging the establishment of parks and open-air spaces, and other improvements tending to the promotion of the general health of the community.

Finally, I trust that in giving this address on this occasion I have said something that will tend to the elevation of our calling and help us to continue to move forward in co-operating with physicians and boards of health in their work for the benefit of mankind; and that will enable those who are not members of our calling, who may be here, to see in our work a human interest and a helping hand in "not only ameliorating the condition or prolonging the life of the suffering individual, but also of exterminating or closely limiting the preventable diseases."

LITERATURE.

[1] Popular Medicines in the Eighteenth Century: By Eben C. Hill. *Johns Hopkins Hospital Bulletin,* 17 (1906), p. 312.
[2] John C. Gunn: "New Domestic Physician or Home Book of Health," 1861, pp. 293–308.
[3] James F. Goodhart: Address in medicine read before the annual meeting (1901) of the British Medical Association.
[4] Charles E. de M. Sajous: "The Internal Secretions and the Principles of Medicine," Vol. II (1907), pp. 1755–1769.
[5] Alfred Stillé in The National Dispensatory, 5th Edition (1894), p. 747.
[6] The Crusade against Tuberculosis: By Laurence F. Flick, *Johns Hopkins Hospital Bulletin,* 18 (1907), p. 308.

PROGRESS IN PHARMACY.

A QUARTERLY REVIEW OF SOME OF THE MORE INTERESTING LITERATURE RELATING TO PHARMACY AND MATERIA MEDICA.

By M. I. Wilbert, Washington, D. C.

With the advent of the summer months and the vacation period, we naturally look ahead to the annual meetings of the national and State associations devoted more particularly to the fostering of the scientific development of medicine and pharmacy.

The American Medical Association will hold its sixth annual session at Atlantic City, June 8–11, 1909. The preliminary program published in the *Journal of the A. M. A.* for May 1, 1909, gives promise of an unusually interesting meeting. The program that has been provided for the Section on Pharmacology and Therapeutics is particularly promising and should prove to be of interest to pharmacists as well as physicians.—*J. Amer. Med. Assoc.,* 1909, v. 52, pp. 1408–1427.

The Philadelphia Branch of the American Pharmaceutical Association promises to hold a meeting at Atlantic City during the week of June 7 in connection with the exhibition of U. S. P. articles, and has issued invitations to members of other branches to be present and take part in the proceedings.

With the well-merited reputation of the Philadelphia Branch for presenting programs of unusual merit and the wide-spread interest in matters relating to the science of pharmacy, on the part of the medical practitioners, there should be no difficulty in making

this the most successful of all of the many meetings held to bring about a better understanding between members of the two professions.

National Formulary.—From a more purely pharmaceutical point of view few happenings in recent years are more promising or more indicative of real progress in the sciences relating to pharmacy than the many successful meetings of local branches of the A. Ph. A. at which the National Formulary and the formulas it contains were discussed and suggestions for improving the same made.

Practically all of the more active branches have contributed in this direction, and the Committee on the National Formulary is to be congratulated on the amount of material that is being offered them for consideration, and, more particularly, on the demonstration that the National Formulary is a really valuable book of reference for every-day use in the up-to-date pharmacy.

National Formulary Nomenclature.—Kebler, Lyman F., discusses the relation of the nomenclature of the National Formulary to the Pure Food and Drugs Law and points out a number of shortcomings and objectionable features of the titles in the N. F.—*J. Amer. Med. Assoc.*, 1909, v. 52, pp. 1393–1397.

New and Non-official Remedies, 1909.—This now well-established annual publication comes to us in enlarged form. It contains upwards of 167 pages of descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the A. M. A., prior to January 1, 1909. The review of this book in the *Journal of the American Chemical Society* (1909, v. 31, p. 609) says: "Every chemist whose work touches upon these substances should give his support to the Council though he may not always be able to agree with their dictum. A proper spirit and the manifestation of good will on all sides will, no doubt, accomplish much in dealing with this important problem of pharmaceutical chemistry."

Council on Pharmacy and Chemistry of the A. M. A.—An editorial discussing the progress of the work of the Council asserts that one of the most encouraging things connected with the advance of therapeutic reforms is the spontaneity with which men, already laboring under diverse and burdensome daily work, accept as a duty the further tasks which membership in or volunteer work for the Council imposes on them. A list of names of well-known

scientific investigators, who have co-operated in the work of the Council during the past year, includes a number of prominent members of the pharmaceutical profession.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 708 and 716.

Practical Methods of Revising the Pharmacopœia.—An editorial calls attention to a possible application of the work of the Council on Pharmacy and Chemistry in the revision of the U. S. P., and more directly to an excellent method of interesting physicians in the Pharmacopœia and the improvement of the content. As a practical experiment the Section on Ophthalmology of the A. M. A. has selected from fifty of the best known drugs in "New and Non-official Remedies" fourteen that were thought to have a sufficiently wide employment by ophthalmic surgeons to justify official recognition. A list of these fourteen drugs has been sent on a return postal card to each of the 935 members of the Section, with instructions to mark six deemed most useful. The replies will be tabulated. Those receiving the largest number of votes will be recommended for inclusion in the next revision of the Pharmacopœia.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1430.

Physiological Testing of Drugs.—At a meeting of the City of Washington Branch of the American Pharmaceutical Association, the general need for developing the physiologic control of active medicaments was demonstrated to be not alone desirable but also necessary. Few abuses are more thoroughly objectionable than the commercial exploitation of pharmacology in the interest of pharmaceutical manufacturers. That there is a wide and growing field for scientific work in this connection is amply shown by the nature of the communications presented at this meeting.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 784.

Digitalis.—A comprehensive review of the efforts that have been made to standardize and control digitalis is presented in *Hygienic Laboratory Bulletin* No. 48 entitled "The Physiological Standardization of Digitalis," by Edmunds and Hale. The bulletin is a pamphlet of sixty-one pages and includes a consideration of the chemistry of digitalis, the relationship of digitoxin content to physiological activity, the variability of digitalis preparations, literature relating to standardization methods, and summary of standardization literature. It also includes a report of experiments conducted to determine the comparative activity of a number of commercial preparations. Every pharmacist should become familiar

with the contents of this bulletin, which may be obtained at a minimum price from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Digitalis Preparations.—A general article on digitalis preparations has been accepted for "New and Non-official Remedies" and should do much to bring about a better understanding of the several commercial preparations that are being marketed as active principles of digitalis. The chemistry of digitalis is far from being satisfactorily worked out, and the term digitalin is applied indiscriminately to various active substances that have been isolated from digitalis. In the article for N. N. R. they are classified as Digitalin True, Digitalin "French," and Digitalin German. In addition to the three digitalins the article also describes Digitonin and Digitoxin. —*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1498.

Pharmacologic Fetishisms.—In an interesting and readable article Wilfred M. Barton calls attention to the development of pharmacology as a recognized study in the science of medicine and enumerates a number of still existing and wide-spread misbeliefs that he is pleased to term "pharmacologic fetishisms." Among the misleading or at least doubtful practices he includes the belief that: olive oil cures cholelithiasis; valerian cures hysteria; tannic acid cures internal hemorrhage; colchicum cures gout; potassium iodide cures neurasthenia, and that lithium salts are a never failing remedy in uric acid diathesis.—*J. Amer. Med. Assoc.*, 1909, v. 52, pp. 1557–1560.

The Bracers.—An abstract from the report of the Committee on Social Betterment contains a partial list of the "patent medicines" which have been classed as "compound liquors," by the Internal Revenue Department and which the druggist is not permitted to sell unless he has paid the special tax as a retail liquor dealer.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1272.

Proposed National Bureau of Public Health.—President Taft has requested the Surgeon-General of the Public Health and Marine Hospital Service to present a plan for the organization of a National Bureau of Public Health. This step is considered as being a business-like initiative that indicates the general belief that the proposed public health bureau should be an evolution and not a *de novo* creation.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1186.

What is Whiskey?—At the request of a number of distillers and importers of spirits and whiskey President Taft has arranged

that testimony be taken by the Solicitor-General of the United States for the purpose of determining what is and has been understood by the term "whiskey."—*Barrels and Bottles,* April 20, 1909, p. 4.

Definition for Distilled Spirits.—T. E. Thorpe, principal of the Government Laboratory, Great Britain, is quoted as defining whiskey as spirit distilled from a fermented liquor obtained from cereal grains, brandy as spirit distilled from fermented grape juice or "must," rum as spirit distilled from fermented liquor prepared from cane sugar, molasses, and sugar cane residues. He doubts the utility of definitions imposing further limitations.—*Pharm. Journ.,* London, v. 28, p. 489.

Determination of Melting Points.—Sidney W. Bunker outlines a new method for determining melting points and gives a simple piece of apparatus which overcomes the difficulty of shaking many substances into the capillary tube usually employed. The new apparatus consists of two comparatively heavy brass rings designed to clamp two microscopic cover-glasses with the necessary disk and washers to make the apparatus water- or oil-proof.—*Pharm. Journ.,* Lond., 1909, v. 28, p. 324.

Sterilization in Pharmacy.—In a paper on sterilization and the preparation and sterilization of ampullas, Bennett and Woolcock present a number of interesting suggestions, with illustrations, on ready methods of applying sterilization in pharmacy.—*Pharm. Journ.,* Lond., 1909, v. 28, pp. 419–420.

New Remedies.—F. Zernik, in discussing the more important new remedies of the year 1908, points out that the pharmacist is responsible for the condition of the substances he dispenses and must therefore be in possession of the required data to be able to apply the necessary tests. He also points out that it is not unusual for manufacturers to make false declarations regarding their products and that the pharmacist, owing to his ignorance of the true composition of the substance he dispenses, is not in position to correct the resulting abuses.—*Ber. d. deut. Pharm. Ges.,* 1909, v. 19, p. 89.

False Claims for Medicines.—H. Thoms, in a recent address before the German Pharmaceutical Association, calls renewed attention to the false claims made for a number of widely advertised German proprietaries. Among them are: Arhovin, Citrocoll, Eston, Formerol, Iodofan, Iod-Vasogn, New Sidonal, Phagocytin, Pyrenol.—*J. Amer. Med. Assoc.,* 1909, v. 52, p. 1273.

Collargol.—A special committee appointed to inquire into the claims made by the American agents of collargol find that the advertising matter relating to collargol contains exaggerated and misleading statements and typifies the all too wide-spread practice of advertising proprietary articles by putting forth the biased views or wishes of the owners as scientific facts.—*J. Amer. Med. Assoc.*, 1909, v. 52, pp. 862–876.

Mercol.—An interesting phase of the deception that has been and is being practiced, willingly and unwillingly, by and on the medical profession, is well illustrated in a recent number of the *Journal of the American Medical Association.* A very capable and widely known physician took issue with the report of the Council on Pharmacy and Chemistry on mercol, a supposedly 1 per cent. solution of mercuric iodide in a bland neutral oil and apparently a mineral oil in which a minute trace of mercuric iodide was dissolved. The physician actually saw the mercuric iodide weighed out, placed in the requisite amount of the oil, dissolved by means of heat, and a portion of the solution bottled, sealed, and forwarded to the *Journal of the American Medical Association.* Chemical examination showed this latter sample to be practically identical with the first; mineral oil with only a trace of mercuric iodide. Evidently the physician and, possibly, the manufacturer himself have been misled by the shortcomings or faults of the "process." The writer of the article points out that in the making of remedial agents sins of omission may be as potent for harm as sins of commission; ignorance or incapacity may be as deadly as dishonesty or fraud, and concludes that it is the duty as well as the business of a drug manufacturer to base his claims on his finished products rather than on the component parts used in their manufacture.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1595.

Unguentine.—Puckner and Clark report an examination of unguentine that indicates the uncertainty of proprietary remedies. The claims made by the manufacturers, from time to time, are contrasted with the analysis which indicates that unguentine contains not alum but aluminum acetate, zinc oxide, or, more probably, zinc carbonate, practically no ichthyol, and about 1 per cent. of phenol. The ointment base is in the main petrolatum.—*J. Amer. Med. Assoc.*, 1909, v. 52, pp. 1047–1048.

Arterenol chlorhydrate occurs as a white fine-grained, odorless, crystalline powder that is slightly anæsthetic to the tongue, readily

soluble in water, but only slightly soluble in alcohol. It has a melting point of 141° C. and gives with ferric chloride solution the characteristic green coloration produced by suprarenal substances. The base, when dried, has a melting point of 191° C. It is claimed to be quantitatively as well as qualitatively analogous to the active principle separated from the suprarenal gland.—*Ber. d. deut. Pharm. Ges.*, 1909, v. 19, p. 96.

Aspirin, Acidum Acetylosalicylicum.—E. Höst, Madsen, reports a comparative study of aspirin and acetyl salicylic acid and reviews the history of acetyl salicylic acid. Gerhart, in 1853, first produced acetyl salicylic acid from chloracetyl and sodium salicylate. v. Gilm, 1859, applied the name acetylized salicylic acid, and Kraut, 1869, who studied the compound more closely, first designated it as acetylosalicylic acid.—*Pharm. Ztg.*, 1909, v. 54, p. 209.

Brovalol is described as the bromisovaleric acid ester of borneol, obtained by the esterification of borneol with bromisovaleric acid or its derivatives. Brovalol is a colorless oily liquid having a slight aromatic odor. It is insoluble in water but soluble in alcohol, chloroform, and ether. Given in doses of from 0.25 to 0.75 gramme.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1258.

Diethylbarbituric acid is being exploited in a number of forms and bids well to develop a multiplicity of names that promise to be annoying if not positively objectionable. A recent number of the *Journal of the Amer. Med. Assoc.* (April 17, 1909, v. 52, p. 1258) enumerates in addition to veronal, a name applied to diethylbarbituric acid, sodium diethylbarbiturate, the monosodium salt of diethylbarbituric acid; medinal sodium, a name applied to sodium diethylbarbiturate, veronal sodium, a name applied to the same by other manufacturers.

Formosa Camphor.—A review of the Formosa camphor trade by Consul Carl F. Deichman, of Tamsui, shows 1,000,000 pounds less exported in 1908 than in the previous year. This decrease is attributed largely to increased activity in the camphor districts of China and Japan and to the growing use of synthetic camphor-like substances in various manufactures. The total exportation of camphor from Formosa amounted to 3,255,507 pounds, of which 1,365,910 was exported to the United States.—*J. Ind. and Eng. Chem.*, 1909, v. 1, p. 324.

Homorenon hydrochloride occurs as a white crystalline powder, or well formed, colorless needle shape crystals that melt at 260°

C. It is readily soluble in water, less soluble in alcohol, and gives the characteristic reactions of pyrocatechin. Homorenon is said to be less toxic than the active principle of the suprarenal gland and to be devoid of the harmful influence on the heart. Used in 5 per cent. solution in place of adrenalin.—*Ber. d. deut. Pharm. Ges.*, 1909, v. 19, p. 97.

Hyoscyamus.—Hanausek, T. F., presents a comparative study of *Hyoscyamus muticus* and *Hyoscyamus niger*, figures the structural characteristics, and reviews some of the literature. He also points out the readiness with which the two leaves may be distinguished by means of the microscope.—*Pharm. Post.*, 1909, v. 52, p. 269.

Iodomenin is the name given to an iodine preparation in which the iodine is combined with bismuth and albumin. It has been recommended by Friedmann as an efficient substitute for iodine and iodides.—*Pharm. Ztg.*, 1909, v. 54, p. 291.

Volatile Oils.—V. Soden, in a communication on the official volatile oils, makes some suggestions on the need for improving the Ph. Germ. IV descriptions of these articles. He proposes that the general subject be discussed apart from fixed oils and outlines a general description that might be included. He does not approve of applying the name of the oil to one of its constituents as is done in the German Pharmacopœia. He suggests that the solubility test be made with a 70 per cent. volume of alcohol, and points out that the determination of the optical property is important.—*Pharm. Ztg.*, 1909, v. 54, p. 249.

Olive Oil.—F. Dietze asserts that the raspberry-red color produced by nitric acid and an ethereal solution of phloroglucin is not uniformly reliable as a test for the presence of peanut or sesame oil in olive oil. He reports a number of experiments and points out that care must be exercised in the application of the test, as the heat produced may be sufficient to violently expel a portion of the liquid from the test-tube.—*Pharm. Ztg.*, 1909, v. 54, p. 260.

Pills of Ferrous Carbonate.—H. Serger reports examining six samples of pills of ferrous carbonate. Three of the samples were deficient in iron and one contained too much. The two samples that were approximately correct in iron content were also most satisfactory in other respects.—*Ber. d. deut. Pharm. Ges.*, 1909, v. 19, p. 128.

Quinine, Use of, in Malaria.—Nocht (*D. med. Wchnschr.*, 1909,

v. 12) discusses the use of quinine in malaria. He prefers the alkaloid because of its comparative insolubility and corresponding tastelessness, and because it is readily dissolved in the stomach. Of the salts he prefers the hydrochloride given in pills or gelatine capsules.—*Pharm. Ztg.*, 1909, v. 54, p. 269.

Quinine.—The annual consumption of quinine is estimated to be approximately 1,000,000 pounds. The maximum individual consumption is in the tropics though the maximum total is in subtropical and temperate regions, as the consumption in the tropics is practically confined to the white inhabitants.—*Pharm. Post.*, 1909, v. 52, p. 236.

Sodium Nitrate.—Charles E. Munroe, in reviewing the consumption of sodium nitrate in the United States, presents some features taken from the statistics for chemical manufacturers compiled by the Bureau of the Census which indicate that the total consumption of sodium nitrate in the United States, during 1905, amounted to 254,772 short tons against 182,431 short tons consumed in 1900. The greater portion of this amount, 100,985 short tons, was used in the manufacture of explosives, while 50,301 short tons were used in the manufacture of nitric acid, 18,467 in the manufacture of sulphuric acid, and 31,324 in the making of general chemicals.—*J. Ind. and Eng. Chem.*, 1909, v. 1, pp. 297–299.

Strophanthin Thoms is described as a crystalline glucoside obtained from *Strophanthus gratus.* It is identical with ouabain obtained from Ouabaio wood by Aruand and is distinctly different from the official strophanthin which is methyl ouabain. Strophanthin Thoms is used in place of strophanthin as a substitute for digitalis. It has been given in doses of 0.003 to 0.025 gramme. —*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1499.

Zinc Permanganate.—The Council on Pharmacy and Chemistry of the A. M. A. publishes a description of zinc permanganate which provides that it should contain not less than 90 per cent. of $Zn(MnO_4)_2 + 6H_2O$. It should be almost completely soluble in water.—*J. Amer. Med. Assoc.*, 1909, v. 52, p. 1258.

PHILADELPHIA COLLEGE OF PHARMACY.

The eighty-eighth annual commencement of the Philadelphia College of Pharmacy was held in the American Academy of Music on Thursday evening, May 20. After prayer by Rev. Floyd W. Tomkins, D.D., the degrees were conferred by President Howard B. French.

The following are the names of those who received the degree of Doctor in Pharmacy (P.D.), together with the subjects of their theses:

Name.	*Thesis.*	*State or Country.*
Allan, James Hugh,	Caryophyllus,	Maryland
Andrew, William Earnest,	Atropa Belladonna,	Pennsylvania
Beaman, Humphrey Mosher,	Manna,	Pennsylvania
Beck, Frederick Cowden,	Linum,	New Jersey
Bell, Howard Homer (P.C.),	Digitalis,	Pennsylvania
Bernstein, Mitchell,	Liquor Sodii Phosphatis Compositus,	Pennsylvania
Black, Fred Lewis,	Olive Oil,	Pennsylvania
Block, (Miss) Jennie,	Incompatibilities and How to Deal with Them,	Russia
Bolin, Zera Exley,	Tinctura Arnicæ,	Pennsylvania
Bonnell, Frank Sumner (P.C.),	Liquor Antisepticus, U. S. P.,	Iowa
Bossert, Myron Adam,	Methods of Manufacture of Unguentum Aquæ Rosæ,	Pennsylvania
Brown, Ernest G.,	Cataplasma Kaolini,	Pennsylvania
Bush, Russell Luther,	Test, Adulteration of Oil of Peppermint,	Pennsylvania
Cady, Murch Robinson,	The Cultivation of Hydrastis,	New York
Cantor, Phillip,	Goulard's Extract,	Russia
Carr, Harry Ivan,	Linimentum Camphoræ,	New Jersey
Coleman, George Joseph,	Belladonna, Scopola, and Phytolacca,	W. Virginia
Cramer, William Franklin, Jr.,	Pancreatin,	New Jersey
Curtis, Luther Barker (P.C.),	Commercial Production of Turpentine,	Florida
Cuthbert, Richard Williams, Jr.,	A Pill Machine. A Plate for Cutting a Plaster Model,	Pennsylvania
Dapp, Gustave Adolph,	Antitoxin and Opsonins,	Pennsylvania
Davidowitch, Jacob,	Sarsaparilla,	Pennsylvania
Davis, Harry Cardeza,	Calcii Sulphas Exsiccatus,	Pennsylvania

Name.	*Thesis.*	*State or Country.*
Davis, Percy Mason,	Calx Sulphurata,	Pennsylvania
Dettrey, John Franklin,	Liquor Magnesii Citratis,	Pennsylvania
Dosch, Philip Christ,	Zinc Stearate,	Pennsylvania
Dunbar, Guy Sinclair,	Tinctura Arnicæ,	New Jersey
Eakle, Homer Willis,	Stramonium and the Alkaloidal Strength of Various Tinctures,	Maryland
Ebner, Frank Gannon,	Syrups from the Fluidextracts,	Ohio
English, LaVerne,	Paraffin,	Ohio
Evans, Chester,	Kola,	Pennsylvania
Ferron, William Euart,	Study of Smelting of Lead,	Utah
Fulton, J. Robert,	Suppositories,	Pennsylvania
Gallant, Clifton Brown,	Nux Vomica and Alkaloid Strychnine,	No. Carolina
Gallinger, George Roy,	The Industrial and Preservative Uses of Formaldehyde,	New York
Godshall, Henry Stites,	A Study of Gaultheria Procumbens and its Volatile Oil,	Pennsylvania
Gorry, John Ambrose,	Vanillinum,	Ohio
Greim, Howard Milton,	The Economic Trend of Business and its Relation to Individual Proprietorship of Pharmacy,	Pennsylvania
Hage, Doane Herring,	Prescription Difficulties,	No. Carolina
Haines, Brooks Collins,	Oleum Ricini,	Pennsylvania
Haines, Kirk Faust,	Liquor Calcis,	Pennsylvania
Hall, Arthur Monroe,	Unguentum Resorcini Compositum,	Pennsylvania
Haller, Donald Eckel,	Preparations of Crude Carbolic Acid,	Pennsylvania
Harner, Jeremiah Ralph,	Syrupus Ferri Saccharati Solubilis,	Pennsylvania
Harvey, George C.,	Manufacture of Tincture of Vanilla,	Pennsylvania
Herron, Charles Selburn,	Elixir Ferri, Quininæ et Strychninæ Phosphatum,	Pennsylvania
Hersh, Clifford Seltzer,	The Active Principle of the Suprarenal Glands,	Pennsylvania
Hoffman, Charles Elbert,	Zinci Stearas,	Pennsylvania
Houck, David Lee,	Sassafras,	Pennsylvania
Hughes, Jesse Thornley,	Gossypium Purificatum,	New Jersey
Hunter, Ralph Thomas, Jr.,	Anatomy of Stem of Phoradendron Flavescens,	Pennsylvania
Hutson, Albert,	Tablet Making for Retail Pharmacists,	New York
Jones, Elisha Roy (P.C.),	Examination of Substances for Poison,	Texas
Keim, Allen Christian,	Natural Salicylic Acid and Sodium Salicylate,	Pennsylvania
Keim, Frederick John, Jr.,	Benzinum Purificatum,	Pennsylvania
Kelly, Earl Leslie,	Armoraciæ Radix,	New York

Name.	*Thesis.*	*State or Country.*
Kinnear, William Kenneth,	Stearic Acid,	Kentucky
Kleckner, Solomon,	Hydrogen Dioxide,	Pennsylvania
Klopp, William Raymond,	Tincture of Nut Gall,	Pennsylvania
Krum, Harry James,	Tinctura Gentianæ Composita,	Pennsylvania
LeVan, Arthur Walter,	Hydrastis,	Pennsylvania
Levan, George Monroe,	Saffron,	Pennsylvania
Lichtenstein, Ivan,	The Difficulties of Tablet Making,	Maryland
Loughlin, (Miss) Helen Frances,	Tincture of Cinchona, U.S.P.,	Pennsylvania
McCann, Jos. Augustus,	The Manufacture of Linen Thread,	New York
McMahon, John Leo,	Emulsions,	New York
Mandelbaum, (Mrs.) Lena Levien,	Ceratum Cantharidis,	Russia
Mahony, Joseph Robert,	Microscopical Examination of Massa Hydrargyri,	Mass'ch'setts
Mathewson, Wm. (P.C.),	Desiccated Suprarenal Gland,	Pennsylvania
May, Edward Anslem,	Caffeine,	Pennsylvania
Michael, John Earnest,	Elixir Ferri, Quininæ et Strychninæ of U.S.P. and N.F.,	Pennsylvania
Moeschlin, Reinhart Julius,	Yeast Culture,	Pennsylvania
Mooney, Robert Henry,	Bee's Wax,	Pennsylvania
Moser, John, Jr.,	The Commercial Varieties of Pilocarpus,	W. Virginia
Mundhenk, Russell Lowell,	Ricinus Communis,	Ohio
Murray, Edw. Anthony,	Ash Determination of Cloves and Allspice,	Pennsylvania
Noedel, Ernest Amiel,	Tinctura Iodi,	Pennsylvania
Obergh, Walter Herman,	Color Reaction of Synthetics,	Pennsylvania
Ott, Harold William,	Methods of Making Unguentum Hydrargyri Nitratis,	Pennsylvania
Pearson, Sam'l Appleton,	Percolation in Pharmacy,	Pennsylvania
Perzin, (Miss) Leah,	Mercury and its Compounds Used in Medicines,	Russia
Pfeiffer, Fred'k August,	A Few Alkaloids of Cinchona,	Pennsylvania
Platt, Addison Atkins,	Diluted Nitrohydrochloric Acid,	Pennsylvania
Pond, William Henry,	Tincture of Ferric Chloride,	Connecticut
Quering, Rudolph Henry,	Hydrastis,	New Jersey
Reudelhuber, Ludwig William,	Oleum Olivæ,	Pennsylvania
Riegner, Fred. Eli,	Liquor Magnesii Citratis,	Pennsylvania
Rigg, John (P.C.),	Phenol,	New Jersey
Schlenker, Claude Edw.,	Pancreatin,	Ohio
Seidell, Warren Reuben,	Benzoin,	Pennsylvania
Siemon, Wm. Herman,	Elixir of the Phosphates of Iron, Quinine and Strychnine,	Pennsylvania

Name.	*Thesis.*	*State or Country.*
Simpers, Jay Scott,	Tincture of Opium,	Pennsylvania
Smith, John William,	Determination of Boric Acid in Talcum Powders,	Pennsylvania
Starr, (Miss) Mabel Charlotte,	Hamamelis,	Connecticut
Steiner, Benjamin,	Antimonii et Potassii Tartras,	Pennsylvania
Stofflet, Raymond Arthur,	Linimentum Saponis,	Pennsylvania
Stoner, Clarence,	Glycerin,	Pennsylvania
Strauss, Herbert Emanuel,	Combination Rolling Pin for Making Lozenges,	Pennsylvania
Tregellas, Guy Smith,	Chloralum Hydratum,	Pennsylvania
Tripple, John Franklin,	Pepsin,	Pennsylvania
Trout, Maurice Elmer,	Antitoxin,	Pennsylvania
Vink, John Alexander Logan,	Semen Carduus Morianas,	Pennsylvania
Wissler, Raymond B. Abbott,	Coal Analysis,	Pennsylvania
Wotring, Roland Jacob,	Phenylis Salicylas,	Pennsylvania
Wright, Joseph Edward,	Hydrastis Canadensis,	Ohio
Yeakle, Walter Atwood,	Apocynum Cannabinum,	Pennsylvania
Young, Howard Eakle,	Cinchona and its Bast Fibres,	Maryland
Zahn, Herman Stanley (P.C.),	Fluid Glycerite of Krameria,	New Jersey

The following are the names of those who received the degree of Pharmaceutical Chemist (P.C.), together with the subjects of their theses:

Name.	*Thesis.*	*State or Country.*
Bigart, (Miss) Anna Elizabeth,	Rhus Glabra and Rhus Hirta	Pennsylvania
Feinstein, (Miss) Anna,	Microscopical Examination of Powdered Rhubarb,	Russia
Grom, Roland Bismarck,	Evolution in Pharmacy,	New Jersey
Guerra, Arthur Louis,	The Examination of Chemicals,	Mexico
Hicks, John Elias Faison,	Quinine,	No. Carolina
Jacobs, Sinclair Sartorius,	Some Points of Difference between Gum and Wood Turpentine,	Georgia
Kresge, Harry Daniel,	Official and Unofficial Troches,	Pennsylvania
Pittsinger, Roland Chapin,	Arsenic Trioxide,	Mass'ch'setts
Prickitt, John Kandle,	Aqua Hydrogenii Dioxidi,	New Jersey
Rosenberg, Samuel,	Camphor Cream,	Pennsylvania
Sollenberger, Norman W.,	Notes on Pharmaceutical Preparations and Apparatus,	New Jersey
Van Inwegen, Frank P.,	Hamamelis Folia,	New York

The following were awarded the certificate of Proficiency in Chemistry: William Henderson Free (P.D.), Pennsylvania; Horace James Hallowell, Pennsylvania; Martin Luther Hartwig, Connecticut; David James Jones, Pennsylvania; Charles Daniel Klingensmith, Pennsylvania; Louis W. Walz, Pennsylvania.

The following were awarded certificates in the Pure Food and Drug Course: Maxwell Montifiore Becker (P.D.), Pennsylvania; Edward Spangler Rose (Ph.G.), Oregon.

There were 128 candidates for the degrees *in course*, coming from the various States and countries as follows: Connecticut, 3; Florida, 1; Georgia, 1; Iowa, 1; Kentucky, 1; Maryland, 4; Massachusetts, 2; Mexico, 1; New Jersey, 11; New York, 7; North Carolina, 3; Ohio, 6; Oregon, 1; Pennsylvania, 77; Russia, 5; Utah, 1; West Virginia, 2; Texas, 1.

The valedictory address was delivered by Hon. Washington Gardner, of Michigan. The subject of the address was "Does Education Pay?" and the speaker paid an eloquent tribute to the dignity and value of educated labor.

AWARD OF PRIZES.

The following students received the grade of distinguished: Mitchell Bernstein, Charles S. Herron, John E. F. Hicks, David L. Houck, George J. Coleman, Allen C. Keim, John Moser, Jr. The grade of meritorious was attained by Frank G. Ebner, Henry S. Godshall, Howard M. Greim, Ralph T. Hunter, Jr., George M. Levan, Russell L. Mundhenk, Benjamin Steiner.

The Proctor Prize, a gold medal and certificate, for the highest general average of the class with a meritorious thesis, was awarded to Mitchell Bernstein, the presentation being made by President French.

The William B. Webb Memorial Prize, a gold medal and certificate offered for the highest general average in the branches of committee, operative pharmacy and specimens was awarded to Allen Christian Keim, the presentation being made by W. L. Cliffe. The following graduates received honorable mention in connection therewith: Mitchell Bernstein, Percy M. Davis, Frank G. Ebner, Donald E. Haller, George C. Harvey, Charles S. Herron, John E. F. Hicks, Ralph T. Hunter, Jr., Albert Hutson, William R. Klopp, John Moser, Jr., Russell L. Mundhenk, Ernest A. Noedel, Addison A. Platt, William H. Pond, Benjamin Steiner.

THE PHARMACY PRIZE, a gold medal, offered by Prof. Joseph P. Remington, for original pharmaceutical work was awarded to Richard Williams Cuthbert, Jr., the presentation being made by Professor LaWall, in the absence of Professor Remington. Herbert E. Strauss received honorable mention in connection therewith.

THE CHEMISTRY PRIZE, $25, offered by Prof. Samuel P. Sadtler, for knowledge of chemical quantitative analysis, was awarded to Sinclair Sartorius Jacobs.

THE MATERIA MEDICA PRIZE, $25, offered by Prof. Clement B. Lowe for the best examination in materia medica and in the recognition of materia medica specimens with a meritorious thesis, was awarded to Charles S. Herron. The following graduates received honorable mention in connection therewith: Mitchell Bernstein, George J. Coleman, Frank G. Ebner, Henry S. Godshall, Howard M. Greim, Kirk F. Haines, John E. F. Hicks, David L. Houck, William R. Klopp, George M. Levan, Walter H. Obergh, Miss Mabel C. Starr, Benjamin Steiner.

THE MICROSCOPICAL RESEARCH PRIZE, a Zentmayer microscope, offered by Prof. Henry Kraemer, for the most meritorious thesis involving original microscopic work, was awarded to George J. Coleman. The following graduates received honorable mention in connection therewith: Miss Anna E. Bigart, Homer Willis Eakle, Miss Anna Feinstein, Henry S. Godshall, Arthur L. Guerra, David L. Houck, Jesse T. Hughes, Ralph T. Hunter, Jr., Earl L. Kelly, George M. Levan, Joseph R. Mahony, Reinhart J. Moeschlin, John Moser, Jr., Russell L. Mundhenk, Frederick A. Pfeiffer, Miss Mabel C. Starr, Frank P. Van Inwegen, Howard E. Young.

THE ANALYTICAL CHEMISTRY PRIZE, $25, offered by Prof. Frank X. Moerk, for the best work in qualitative and quantitative analysis, was awarded to John Moser, Jr. The following graduates received honorable mention in connection therewith: George J. Coleman, Howard M. Greim, David L. Houck.

THE OPERATIVE PHARMACY PRIZE, $20 in gold, offered by Prof. Joseph P. Remington, for the best examination in operative pharmacy, was awarded to Miss Mabel C. Starr, the presentation being made by E. Fullerton Cook. The following graduates received honorable mention in connection therewith: Mitchell Bernstein, Donald E. Haller, Albert Hutson, Allen C. Keim, Russell L. Mundhenk, Edward A. Murray, Ernest A. Noedel, Harold W. Ott, Addison A. Platt, Herbert E. Strauss.

THE MAISCH PRIZE, $20 in gold, offered by the late Mr. Jacob H. Redsecker, for histological knowledge of drugs, was awarded to William Raymond Klopp, the presentation being made by Dr. Adolph W. Miller. The following graduates received honorable mention in connection therewith: Mitchell Bernstein, George J. Coleman, Henry S. Godshall, Howard M. Greim, John E. F. Hicks, David L. Houck, Miss Mabel C. Starr, Benjamin Steiner.

THE THEORETICAL PHARMACY PRIZE, a Troemner Agate Prescription Balance, offered by Mr. Mahlon N. Kline, for the best examination in theory and practice of pharmacy, was awarded to John E. F. Hicks, the presentation being made by Warren H. Poley. The following graduates received honorable mention in connection therewith: George J. Coleman, Richard W. Cuthbert, Jr., Roland B. Grom, Doane H. Hage, Charles S. Herron, John Moser, Jr.

THE COMMERCIAL TRAINING PRIZE, $20 in gold, offered by Prof. Joseph P. Remington to the graduate who passed the best examination in commercial training at the final examination for the degree, was awarded to Charles Selburn Herron, the presentation being made by Frank G. Ryan, the first instructor in this branch in the College. The following graduates received honorable mention in connection therewith: George J. Coleman, John E. F. Hicks, David L. Houck.

THE INSTRUCTORS' PRIZE, $20, offered by the Instructors of the College, for the highest term average in the branches of pharmacy, chemistry and materia medica, was awarded to David Lee Houck. The following graduates received honorable mention in connection therewith: James H. Allan, Mitchell Bernstein, Frank G. Ebner, Henry S. Godshall, Milton H. Greim, Charles S. Herron, John E. F. Hicks, Ralph T. Hunter, Jr., Allan C. Keim, John Moser, Jr., Miss Mabel C. Starr, Benjamin Steiner.

THE PHARMACY QUIZ PRIZE, one year's membership in the American Pharmaceutical Association, offered by Prof. Charles H. LaWall, for the best term work in theory and practice of pharmacy, was awarded to David Lee Houck. The following graduates received honorable mention in connection therewith: William E. Andrew, Percy M. Davis, Frank G. Ebner, Milton H. Greim, Donald E. Haller, Charles S. Herron, John E. F. Hicks, Ralph T. Hunter, Jr., Allan C. Keim, John Moser, Jr., Benjamin Steiner.

THE KAPPA PSI FRATERNITY PRIZE, a gold medal, offered by the Eta Chapter of the Kappa Psi Fraternity to the graduate making the highest general average during his or her senior year at the

College, was awarded to Mitchell Bernstein, the presentation being made by Mr. R. S. Hirst. The following graduates received honorable mention in connection therewith: George J. Coleman, Frank G. Ebner, Henry S. Godshall, Howard M. Greim, Charles S. Herron, John E. F. Hicks, David L. Houck, Ralph T. Hunter, Jr., Allen C. Keim, George M. Levan, John Moser, Jr., Russell L. Mundhenk, Benjamin Steiner.

COMPLIMENTARY SUPPER.

On Wednesday evening, May 19, a complimentary supper was tendered the graduating class by the members of the Faculty. Professor Remington, as dean of the Faculty, acted as toastmaster, and brief addresses were made by the members of the Faculty, the instructors, some of the members of the Board of Trustees and of the graduating class. This year Frank G. Ryan, now President of Parke, Davis & Co., and formerly Instructor in Pharmacy, was present and made a highly appreciated address on "The Attainment of Success." Mr. Joseph Jacobs, of Atlanta, Georgia, was also present and gave an interesting address on the drugs used by the army surgeons of the South during the Civil War.

BACCALAUREATE SERMON.

The baccalaureate sermon was preached by the Rev. David M. Steele in the Church of St. Luke and the Epiphany on Sunday, May 16, at four o'clock.

ALUMNI ASSOCIATION.

The forty-fifth annual meeting was held in Alumni Hall, Monday, May 17, at 2.30 P.M., with the President, E. Fullerton Cook, in the chair. Following the annual address of the President were the reports of the officers and standing committees and the annual election of officers.

On Tuesday evening, May 18, the annual banquet of the Alumni Association was held at the Hotel Walton and was attended by over 250 members. It was the most successful banquet that the Association has ever given in point of members as well as in enthusiasm, the members coming from quite distant points. The details of the events of the Alumni Association will be published in the *Alumni Report* of the College.

PHARMACEUTICAL MEETING.

The last of the series of pharmaceutical meetings for 1908–1909 was held on Tuesday afternoon, May 18, at 3 o'clock, with Joseph W. England, a member of the Board of Trustees, in the chair.

Mr. Joseph L. Lemberger, of Lebanon, Pa., read a memoir on the late Mr. J. H. Redsecker (see page 261). Tributes of respect to the work and worth of Mr. Redsecker were also paid by William L. Cliffe, Mr. England, Dr. Lowe, and Professor Kraemer.

Prof. Charles H. LaWall presented his herbarium of local plants, which was accepted with a vote of thanks.

A number of students of the graduating class gave brief résumés of their work with an exhibition of specimens and preparations of their studies, as embodied in their graduating theses. Some of these will be published in later issues of this JOURNAL. H. K.

PARRISH MEMORIAL.

Monday, May 10, 1909, was the forty-third anniversary of the laying of the corner-stone of Swarthmore College by Professor Edward Parrish, its first President. A number of friends and students of Professor Parrish and others spent the morning at Swarthmore, and as far as possible repeated "the experiences of May 10, 1866, when the Friends held a picnic to enjoy the natural beauties of the splendid site upon which Swarthmore College stands." Of the relatives of Professor Parrish there were present his son, Edward Parrish, a grandson and a great-grandson. After meeting Dr. Joseph Swayne, the President of Swarthmore College, the party went through a number of the buildings, a few plants were collected which were brought to the Philadelphia College of Pharmacy in the afternoon, and a picnic luncheon owing to the inclemency of the weather was had in the gymnasium.

In the afternoon a memorial celebration in honor of Professor Parrish, who was formerly also a professor in the Philadelphia College of Pharmacy, was held in the museum of this institution. There were present the President of the College, members of the Board of Trustees and Faculty, and a number of former students and friends of Professor Parrish as well as members of the College and pharmacists.

In addition to the members of the Parrish family who were present at Swarthmore in the morning was a sister of Professor

Parrish, Mrs. Susan D. Wharton. Swarthmore College was represented by Mr. Isaac Clothier, Chairman of the Board of Managers and a friend of Professor Parrish, and Dr. Benjamin F. Battin, Professor of the German Language and Literature.

The opening address was made by Professor Joseph P. Remington, who was Professor Parrish's assistant and now dean of the Philadelphia College of Pharmacy.

Professor James M. Good, of the St. Louis College of Pharmacy, presented a crayon portrait of Professor Parrish, and paid a glowing tribute to his sterling integrity and his conscientious devotion and rigid adherence to the right. He said, among other things, that "Professor Parrish was cultured and scholarly; of attractive personality; tactful and possessed of ready wit. . . . He was a peer among men, who by conspicuous ability were adding to the enviable reputation of the Philadelphia College of Pharmacy and who were making history for it and for the American Pharmaceutical Association."

The portrait was received on behalf of the College by President Howard B. French, who, after thanking Professor Good for the presentation of the speaking likeness of Professor Parrish, which action he said was highly appreciated by the College, referred to the brilliancy of Professor Parrish's career and the esteem in which he was held, and will ever be held by the members of the Philadelphia College of Pharmacy.

Professor Henry P. Hynson, of the University of Maryland, read an address on "Edward Parrish and His Writings," which was an estimate of this leader in pharmacy and co-worker with Grahame, Procter, and Squibb, as revealed through his writings in the AMERICAN JOURNAL OF PHARMACY and the Proceedings of the American Pharmaceutical Association."

Thomas D. McElhenie, of the class of 1872, P.C.P., read a paper giving "Reminiscences of Edward Parrish," including his own recollections of him as well as those of Samuel Fairchild, Horatio N. Fraser, and Joseph Case.

An address was to have been made by Clemmons Parrish, of Brooklyn, a son of Professor Parrish, but on account of illness he was unable to be present. Another son, Edward Parrish, a mining engineer from Newport, R. I., made a few remarks, saying that he was profoundly moved by the estimate of the work and character of his father as set forth by those who knew him in a professional way.

Mr. Isaac Clothier said that he knew Professor Parrish in his early childhood and well remembered his and his brother Dillwyn's drug store at Eighth and Arch Streets. Professor Parrish, he said, had a wonderful amount of knowledge, that all nature was open to him and that everything they met in rambles in the open country appeared to be known to him. In the founding of Swarthmore College Professor Parrish was among the active workers, and he was recognized as a leader and an inspiration in all of the activities of the College. He travelled about the country and gave largely of his time to secure the funds for its establishment, and without him it would have been impossible to found this College. He was unanimously selected its first president, and Mr. Clothier said that he well remembers his presence and the timely and wise words uttered by him at the laying of the corner-stone of the college building. In closing he said: "It is unusual, forty years after, for one's friends to gather together and pay such a tribute to the memory of a man."

Mrs. Susan D. Wharton, a sister of Professor Parrish, said a few words in appreciation of this remembrance of her brother after this long lapse of years since his death. It was touching indeed to hear her relate one incident which gave the key-note of the personality of this leader among the eminent men in pharmacy. One day Professor Parrish was conversing with some of his friends of the Faculty of Swarthmore College when he noticed a lonely boy—a student at Swarthmore. He excused himself, left the group and walked with the lad, placing his hand on his shoulder, and thus brought him to a realization of the friends and the home he had at the College.

Dr. Benjamin F. Battin, Secretary of the Faculty of Swarthmore College, gave an interesting account of the history of the institution from its founding until to-day, there being at the present time 343 students, eighteen departments of study, and forty-one members of the corps of instructors.

Mr. Thomas S. Wiegand, who was the editor of Parrish's "Practice of Pharmacy" upon the death of Professor Parrish, referred to his magnanimity and self-sacrifice, and told of his last work as one of the commissioners of the government of the United States to settle some difficulties with certain Indian tribes, in which effort he practically gave up his life, falling a victim to malaria while at Fort Sill, Indian Territory.

Dr. John F. Hancock, of Baltimore, related a number of incidents

showing the great personal charm of Professor Parrish and illustrating his power of quick perception and great ability as an organizer.

The celebration was brought to a close by an incident related by Professor Remington while serving as assistant to Professor Parrish. At the close of the exercises a collation was served in the museum and the friends gathered together had an opportunity of meeting the relatives of Professor Parrish and those who had come to honor his memory. H. K.

BOOK REVIEW.

GENEALOGY OF THE DESCENDANTS OF THOMAS FRENCH. Compiled and published by Howard Barclay French. Vol. I. Philadelphia, privately printed, 1909.

The memory of that man is blessed who has descendants that are worthy of their heritage, and such descendants are fortunate when one of their number has that sense of family pride which prompts him to take of his time and means to prepare a fitting memorial of the deeds and works of their ancestors.

On the title page of the volume at hand we find that this book is the "genealogy of the descendants of Thomas French who came to America from Nether Heyford, Northamptonshire, England, and settled in Berlington (Burlington) in the province and country of West New Jersey," of which he was one of the original proprietors, together with William Penn, Edward Byllynge, Thomas Ollive, Gauen Laurie, and others. Volume I contains "some account of the Colonial manners and doings, setting up of Friends' meetings, copies of old minutes and other particular writings of public interest, curious and rare papers in fac-simile, noteworthy happenings and places, etc."

It will probably be news to those who have known the author as President of the Philadelphia College of Pharmacy, President of the Equitable Trust Company, paint and varnish manufacturer trading as Samuel H. French & Co., member of the Board of Charities of the State of Pennsylvania, etc., etc., that he has been engaged for some 35 years in collecting and compiling the material for this work, which will be a lasting contribution to the literature and history of New Jersey and Pennsylvania. It is not too much

to say that no student of the history of these two Commonwealths will fail to consult the records contained in this book, as neither time nor expense has been spared in ascertaining the authenticity of every statement given.

The volume is illustrated with some 150 half-tones, which are of unusual clearness and merit, and many of them of general historic interest.

Of the illustrations and descriptions of general interest we mention the superb illustration of the sycamore tree in Burlington, N. J., which is over 300 years old; Governor Franklin's house, "Franklin Park," 1770, which is located on the original estate of Thomas French near Rancocas, N. J.; pages from "The Concessions and Agreements of the Proprietors, Freeholders and Inhabitants of the Province of West New Jersey in America;" sycamore and walnut trees, Gloucester, N. J., over 250 years old and under which the Council of Proprietors for Gloucester County have met annually since 1687; "Petticoat Bridge" built by the "sturdy women, wives and daughters of the Continental soldiers about 1779."

This Genealogy is dedicated to the father of the author, Samuel H. French, who was well known as an active member of the wholesale drug firm of French, Richards & Co. from 1852 till 1883. Volume I, which has just been issued, is an octavo of 500 pages. The paper is of excellent quality, and the cover is inscribed with the coat of arms and old motto of the French family, "*Malo Mori quam Foedari*" (I would rather die than be debased).

Medical literature is graced with some charming biographical papers, such as those by Oliver Wendell Holmes and by Professor William Osler, and this division of medical history is constantly being enriched. It is cause for gratification when in any profession those may be found who are inclined to literary pursuits; for it is through studies of the kind indicated that that culture is brought to light which characterizes true development and true progress. It is safe to say that no one could peruse the Genealogy of the descendants of Thomas French without realizing the responsibility of citizenship and aspiring to acquit himself as a man and as a worthy heir. When a work is prepared on such broad lines as the one under consideration it is of very great interest, not only to the immediate circle of relatives and friends, but to others as well, and we eagerly await the appearance of the second volume, which we understand is well under way. H. K.